

MATHEMATICS—Teaching and Learning

Subject	Title	Author	Abstract	Source	Publisher
Teaching and Learning	The Effects of Technology Education, Science and Mathematics Integration Upon 8 th Grader's Technological Problem-Solving Ability	Childress	This study investigated the effects of technology education, science, and mathematics (TSM)"curriculum integration on the technological problem-solving ability of eighth grade technology "education students. The researcher concluded that TSM curriculum integration may promote the application of science and mathematics concepts to technological problem solving and does not hinder the technological problem-solving ability of eighth technology education students."	Dissertation	Virginia Polytechnic Institute and State University 0247. Year: 1994.
Teaching and learning	An Analysis of Factors that Influence Technology Integration by Math Teacher Educators	Adamy	This study examines the technology integration practices of post-secondary, math teacher educators. Examination of the technology use of those who train teachers will add to an understanding of how to impact teachers' use of technology before they reach the classroom. Four math teacher educators in the state of Virginia were interviewed and observed teaching in order to form a picture of how they have developed as technology users, as well as the factors that have promoted or inhibited their adoption of technological innovations.	Dissertation	University of Virginia 0246. Year: 1999.

MATHEMATICS—Teaching and Learning

Subject	Title	Author	Abstract	Source	Publisher
Teaching and learning	An Analysis of Integration of Technology in Mathematics Education at the Illinois Mathematics & Science Academy	Vohra	The identification of role model institutions, which use desired levels of technology to teach their mathematics curriculums and have successful track records of producing high-quality graduates, is needed and therefore was the focus of this study. The appropriate hardware/software for various specific areas of mathematics was identified as per the recommendations made in the models and presented as consolidated models (practical and theoretical).	Dissertation	Northern Illinois University 0162. Year: 1993.
Teaching and learning	"An Analysis of the Effects of An Integrated Program on the Achievement Levels, Achievement Patterns, and Application Abilities of 7th Grade Students"	Savage-Davis	Integrated knowledge is knowledge from different fields of study that has been applied to human problems several perspectives. Effective middle schools help students integrate intellectual and social skills into their repertoire of learning behavior. The Integrated Mathematics, Science, and Technology (IMaST) program fosters this type of curriculum. The program integrates knowledge, skills, and attitudes normally taught in separate courses in a way that is consistent with current understandings of how middle school students learn. The design of this study evaluates the effectiveness of an integrated mathematics, science, and technology program on student achievement level, achievement pattern, and application ability.	Dissertation	Illinois State University 0092. Year: 1995.

MATHEMATICS—Teaching and Learning

Subject	Title	Author	Abstract	Source	Publisher
Teaching and learning	An Instructional Package Integrating Science and Social Studies Instruction at the 5th Grade Level	Hulley	The focus of this dissertation is on the integration of science and social studies at the fifth grade level using the Mississippi State Department of Education Curriculum Guidelines and Objectives (MSDE, 1995) and the National Science Education Standards (National Research Council (NRC), 1996). An instructional package of lesson plans that teachers can use as ideas to create their own plans for an integrated curriculum of science and social studies was devised. Each lesson plan includes an objective, materials, procedures, and evaluation for teachers. This qualitative study was done to create lesson plans that integrate science and social studies with the hope that teachers will expand upon them and implement them into their curricula.	Dissertation	The University of Mississippi 0131. Year: 1998.
Teaching and learning	The Influence of Computing Technology on School Instruction in Grades K-12	Bartkovich	The problem investigated in this study is stated in the following two parts: (1) Amid rapid advances in computer technology and numerous, sometimes conflicting, recommendations for curricular change, educators need rationales and models for the integration of calculators and computers into the curriculum. (2) Due to its recent widespread introduction into the curriculum, teachers need pedagogical models for teaching computer programming. This study contains an examination of the instructional uses of computers and formulates guidelines for their integration into the curriculum in grades K-12.	Dissertation	Duke University 0066. Year: 1987

MATHEMATICS—Teaching and Learning

Subject	Title	Author	Abstract	Source	Publisher
Teaching and learning	Technology Can Help You Meet The Standards	Snyder	The standards in PA required students use technology and computers, but the computer labs were mostly used for English composition or word processing purposes. The goal was to make computers a major component of the mathematics curriculum. A grant was received from Apple to obtain a computer lab. After the lab was in place, Carnegie Mellon University became interested in working with Langley on a new program they were developing based on the findings of cognitive science and the use of computers as a major component of the instruction.	8(2) p. 40-42.	ENC Focus
Teaching and learning	Piloting the Navigator	Brendon	Mathematics Dept. for Franklin Heights H.S. in Ohio has been piloting the Texas Instruments Navigator. One of the first projects was an interactive program in which Algebra students could practice computing the slope of a line. A math and computer science teacher programmed software that randomly assigned problems to students with the intent being to prevent students from copying each other's work. The result was that students began to collaborate on problems, stay on task in the classroom and engage with the lessons. One of the most important results was how the new techniques changed student attitude toward mathematics.		ENC Focus.
Teaching and learning	Calculators as Learning Tools for Young Children's Explorations of	Huinker	Using calculators as learning tools can empower young children with the capacity to investigate number ideas in ways that were previously inaccessible to them. The ongoing use	Teaching Children Mathematics 2002	

MATHEMATICS—Teaching and Learning

Subject	Title	Author	Abstract	Source	Publisher
	Number		of calculators will continue to enhance learning by presenting opportunities and possibilities for children.		
Teaching and learning	Using interactive web sites to enhance mathematics learning	Rich, Joyner	Teachers face many hurdles when integrating technology with a high quality mathematics instructional program. Resources are available through NCTM that support Principles and Standards for School Mathematics and assist teachers with this dilemma. Using the Internet to help create effective Standards-based mathematics instruction is a new way of planning for many instructors.	Teaching Children Mathematics 2002	
Teaching and learning	Bridging the gap: Using interactive computer tools to build fraction schemes	Olive	Student understanding of fraction concepts is a stumbling block in their mathematical development. Researchers have pointed to children's whole number knowledge as interfering with or creating a barrier to their understanding of fractions. Tools for Interactive Mathematical Activity (TIMA) are sets of tools that children and teachers can use to create problem situations and solve the problems by performing mathematical operations on the objects created on the computer. Three different TIMA sets were used in a 3 year teaching experiment that was part of a National Science Foundation research study	Teaching Children Mathematics 2002	